REMARKS/ARGUMENTS

Claims 1, 3, 4 and 18 have been rejected under 35 U.S.C. 102(b) as being anticipated by or under 35 U.S.C. 103(a) as being obvious over Kanno et al. (U.S. Patent No. 5,918,817). Claims 1, 3, 4 and 18 have also been rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi et al. (U.S. Patent Application Publication No. 2003/0170988), in view of Kanno et al. Claims 20-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al., in view of Izumi et al.

Claim 1 is being amended to include the limitation of the current claim 18. Claims 18 and 20-24 are being canceled. As explained below, the limitations of the current claim 18 are directed to method steps carried out with a bifluid nozzle of the so-called "external mixing type."

New claim 25 depends from claim 1 and recites that the treatment liquid is deionized water, and the gas mixed with the treatment liquid is nitrogen gas. The new claim is supported by the current claim 20.

Thus, claims 1, 3, 4 and 25 are now pending.

The applicant disagrees with the Examiner's argument that Kanno et al. teaches droplets which are all 10 μm in diameter. Generally, a bifluid nozzle (including the bifluid nozzle employed as in amended claim 1) generates droplets having a wide diameter distribution.

However, supposing for the sake of argument that Kanno et al., do contain such a teaching, it is submitted that any such characteristic of the diameter distribution of the droplets is the result of the specific structure of the respective bifluid nozzle utilized in Kanno et al., as opposed to the different nozzle used in the method of claim 1.

A significant difference between these bifluid nozzles is that the bifluid nozzle of Kanno et al. includes an accelerating tube 11, 21, 31, 41, 51 or 61 which is capable of accelerating droplets to a supersonic speed. The bifluid nozzle of the disclosed embodiment does not include or require such an accelerating tube. Therefore, even if the

bifluid nozzle of Kanno et al. can generate droplets each being 10 μm in diameter, such droplets must be obtained by employing the accelerating tube.

The bifluid nozzle of Kanno et al. is of the so-called internal mixing type (cf. page 9, lines 17-20 in the specification of the present application), in which a treatment liquid and a gas are mixed within an atomizing tube 12, 22, 32, 42, 52 or 62 within the nozzle, to generate droplets. The droplets generated within the atomizing tube pass through the inside of the accelerating tube.

On the other hand, in the method of amended claim 1, a bifluid nozzle of the so-called external mixing type (see page 9, line 24 to page 10, line 2 in the specification of the present application) is used, in which a treatment liquid and a gas are mixed outside of a casing to generate droplets. The bifluid nozzle of the external mixing type cannot include the accelerating tube of Kanno et al., and further Kanno et al., does not generate droplets by mixing a treatment liquid and a gas outside of a casing.

The applicant further submits that, although the Examiner cites essentially the whole description in the specification and the drawings of Kanno et al., it cannot be understood from Kanno et al., or from the Office Action, what mechanism would or could make all droplets have a constant diameter of 10 μm. For example, droplets would be likely to recombine within the accelerating tube, which would make the diameter distribution of the droplets broader. It cannot be understood how the Examiner believes such recombination is prevented.

In either case, the respective mechanisms to realize the diameter distribution of droplets must be significantly different between the invention of Kanno et al. and the method now set forth in claim 1. Therefore, even though Izumi et al. teach a bifluid nozzle of external mixing type, it would be unreasonable to combine the invention of Kanno et al., and the invention of Izumi et al., and expect to generate droplets of a treatment liquid as now set forth in claim 1.

In view of the foregoing, reconsideration and allowance of claims 1, 3, 4 and 25 is requested.

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Respectfully submitted,

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